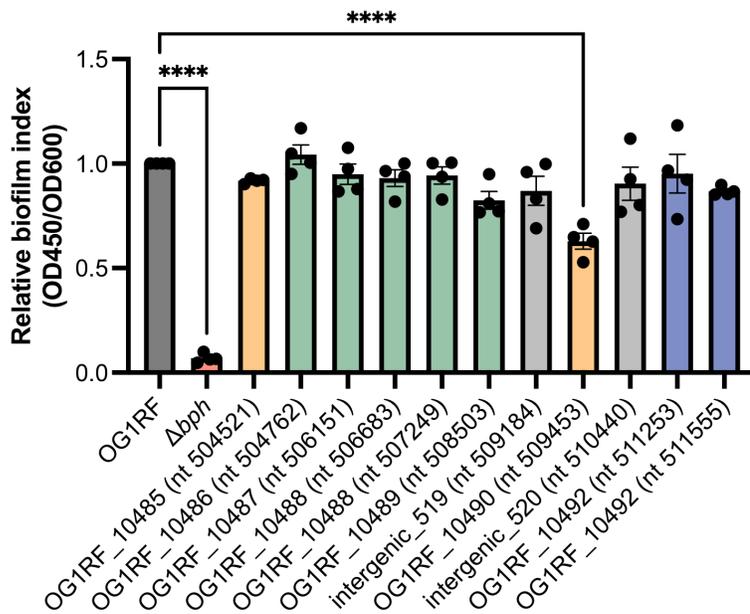


Figure S1. Categories of differentially expressed genes in *Δbph* after 2 and 4 h planktonic growth. **A, B)** Volcano plots showing the distribution of differentially expressed genes at 2 hr (**A**) and 4 hr (**B**). **C, D)** OG1RF locus tags were converted to KEGG identifiers, and category analysis was done using KEGG Mapper for differentially expressed genes at 2 hr (**C**) and 4 hr (**D**). The graphs represent the ratio of differentially expressed genes out of the total number of OG1RF genes within each KEGG category.

A

- Cell wall anchor family protein
- Intergenic region
- WxL domain surface protein
- M protein trans-acting positive regulator



B

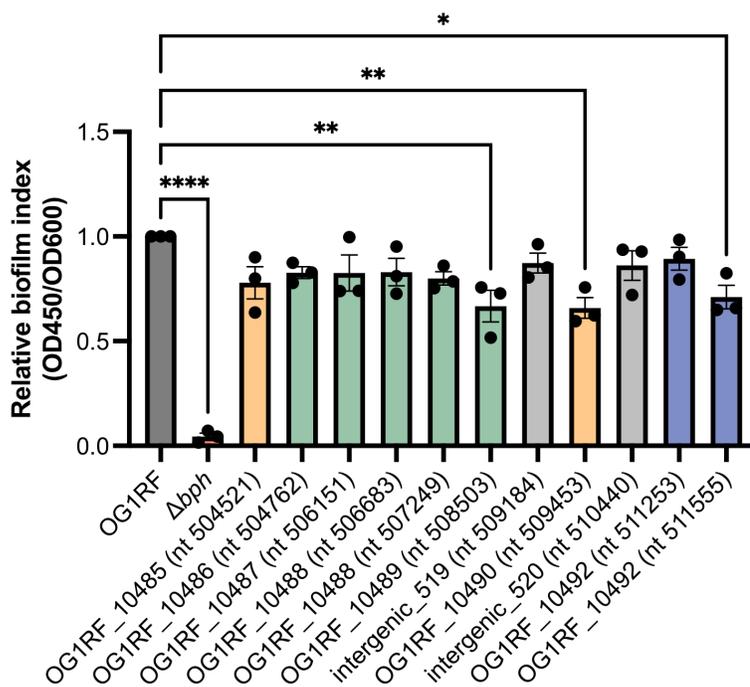


Figure S2: Biofilm formation of mutants with Tn insertions in OG1RF_10485-10492. Tn mutants were obtained from stock Tn library plates, and biofilm formation in TSB-D was tested in 96-well plates at **A)** 6 h and **B)** 24 h. Biofilm biomass was detected by safranin staining

(A₄₅₀), and biofilm production was calculated relative to overall growth (A₆₀₀). Values were normalized to OG1RF. Each data point represents an independent biological replicate (**A**, n = 4; **B**, n = 3). Error bars represent standard error of the mean. Statistical significance was calculated by one-way ANOVA (*p<0.05, **p<0.01, ****p<0.0001).

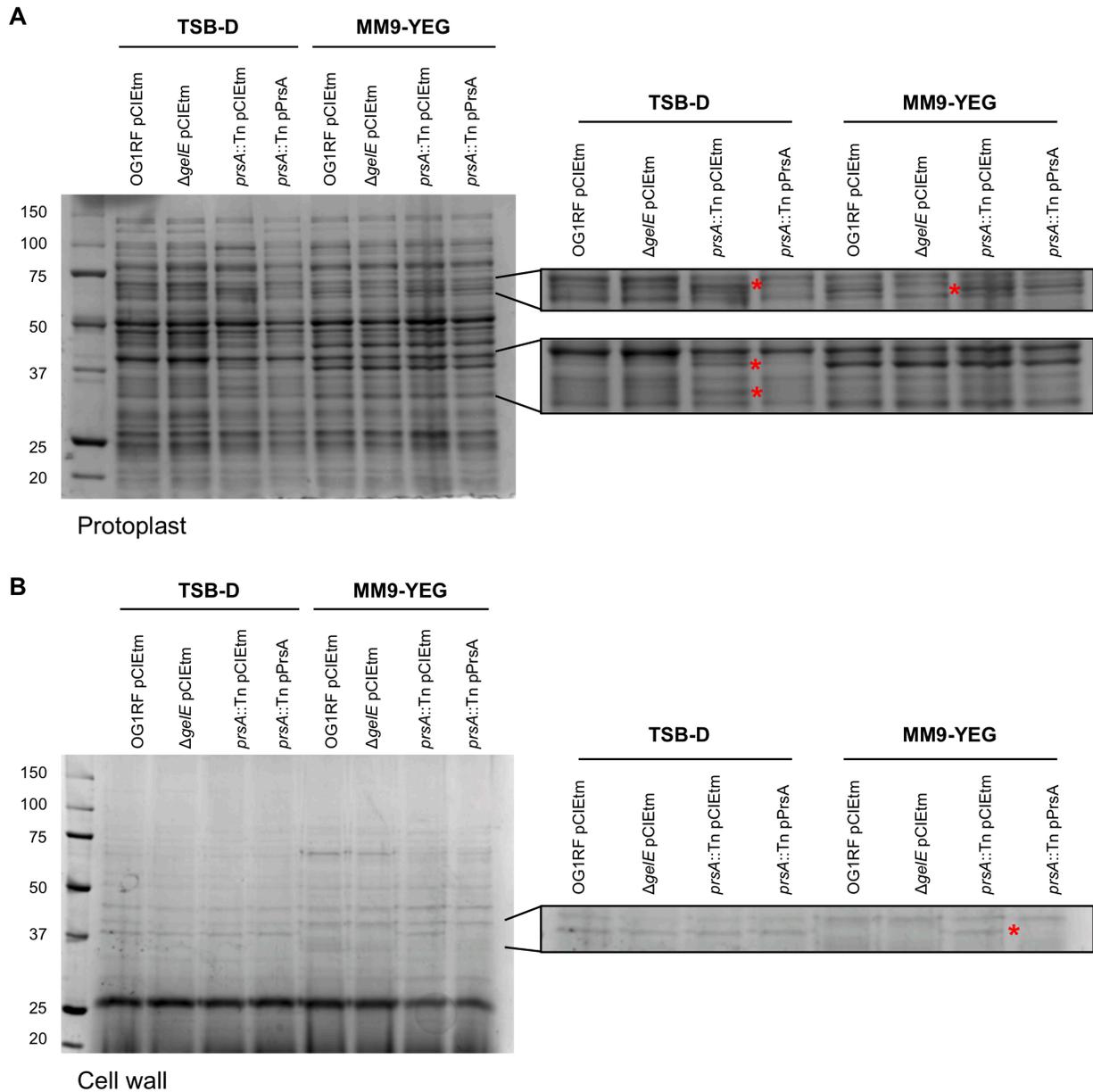


Figure S3. Protein expression in OG1RF, $\Delta gelE$, and *prsA::Tn*. Protein lysates were prepared from **A)** protoplasts and **B)** cell wall samples. Samples were run on SDS-PAGE gels and visualized via Coomassie staining. Protein bands differentially expressed in mutant strains are marked with a red asterisk to the right of the band. Images are representative of three biological replicates.

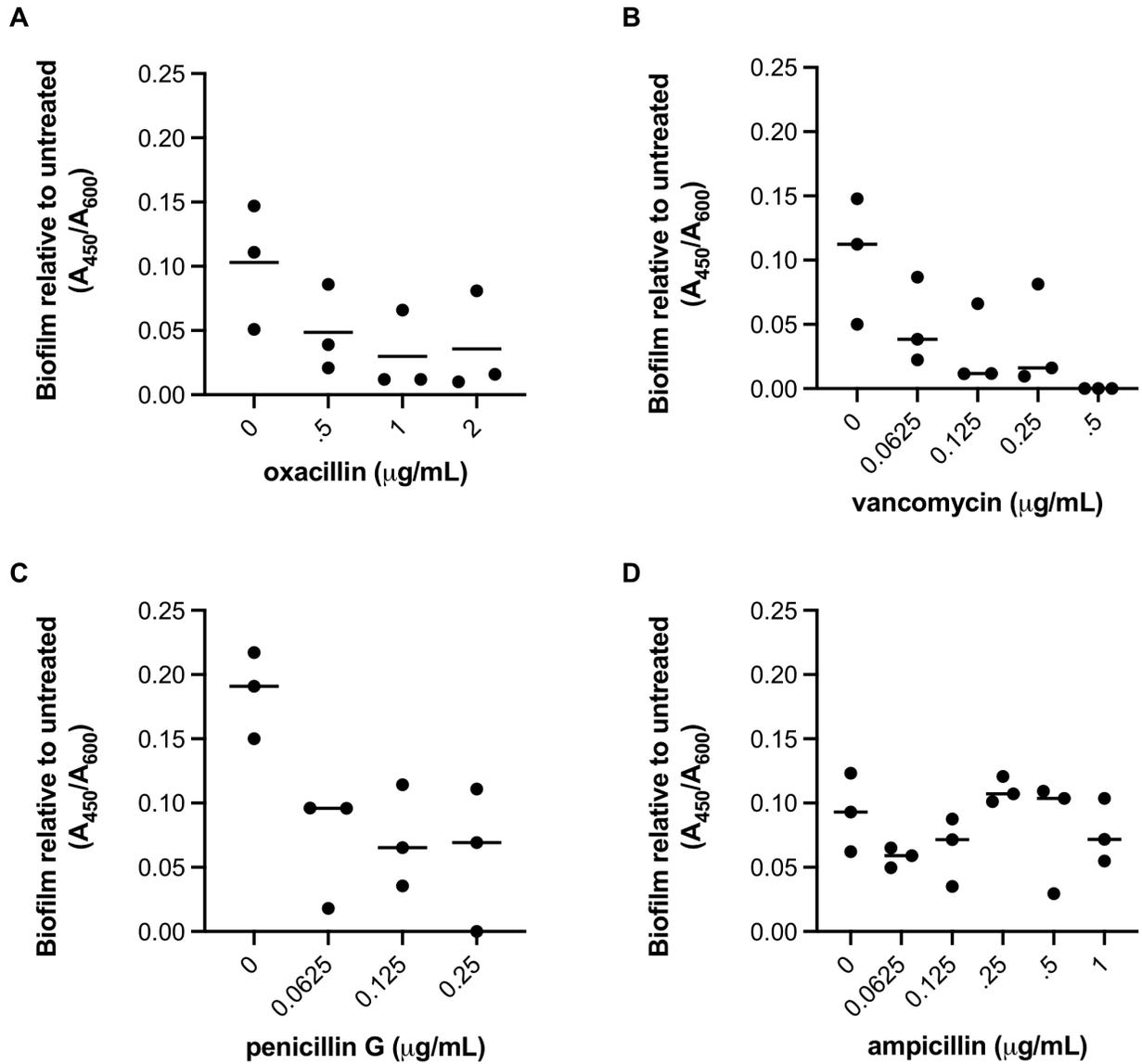


Figure S4. Biofilm production of Δbph in the presence of sub-inhibitory concentrations of antibiotics. Δbph was grown in a 2-fold dilution series of **A)** oxacillin, **B)** vancomycin, **C)** penicillin G, and **D)** ampicillin, and growth was measured as A_{600} . Biofilm material was stained with safranin and quantified at A_{450} . Biofilm production was calculated relative to OG1RF for each sample. Data points represent independent biological replicates ($n = 3$), and error bars show standard error of the mean.

Table S1: RNAseq analysis of genes differentially expressed in Δbph compared to OG1RF at 2 and 4 hrs in planktonic culture.

Table S2. Comparison of differentially expressed genes in Δbph and $\Delta fsrB$ deletion mutants.

Table S3. Strains, plasmids, and oligonucleotides used in this study.

Strain	Description	Reference
<i>Escherichia coli</i> DH5 α	Laboratory K-12 cloning strain	Fisher Scientific
<i>Enterococcus faecalis</i> OG1RF	Parent strain, Rif ^R Fus ^R	(1)
<i>E. faecalis</i> OG1RF Δbph (JW271)	Markerless in-frame deletion of <i>bph</i> (OG1RF_10435), Rif ^R , Fus ^R	(2)
<i>E. faecalis</i> OG1RF EfaMarTn <i>prsA</i> ::Tn (JW534)	<i>mariner</i> transposon insertion at nucleotide position 440158 (OG1RF_10423), Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF $\Delta gelE$ (TX5264)	Markerless in-frame deletion of <i>gelE</i> , Rif ^R , Fus ^R	(4)
<i>E. faecalis</i> OG1RF $\Delta fsrA$ (JD100)	Markerless in-frame deletion of <i>fsrA</i> , Rif ^R , Fus ^R	(4)
<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10485::Tn	<i>mariner</i> transposon insertion at nucleotide position 504521, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10486::Tn	<i>mariner</i> transposon insertion at nucleotide position 504762, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10487::Tn	<i>mariner</i> transposon insertion at nucleotide position 506151, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10488::Tn	<i>mariner</i> transposon insertion at nucleotide position 506683, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10488::Tn	<i>mariner</i> transposon insertion at nucleotide position 507249, Rif ^R Fus ^R Cm ^R	(3)

<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10489::Tn	<i>mariner</i> transposon insertion at nucleotide position 508503, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn intergenic_519::Tn	<i>mariner</i> transposon insertion at nucleotide position 509184, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10490::Tn	<i>mariner</i> transposon insertion at nucleotide position 509453, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn intergenic_520::Tn	<i>mariner</i> transposon insertion at nucleotide position 510440, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10492::Tn	<i>mariner</i> transposon insertion at nucleotide position 511253, Rif ^R Fus ^R Cm ^R	(3)
<i>E. faecalis</i> OG1RF EfaMarTn OG1RF_10492::Tn	<i>mariner</i> transposon insertion at nucleotide position 511555, Rif ^R Fus ^R Cm ^R	(3)
Oligonucleotide	Sequence and Description	Reference
10423-bam-fwd	5' – ATA GGA <u>TCC AAA CAG GAG TGC</u> ATA AGA G – 3', forward primer for confirming OG1RF_10423 (<i>prsA</i>) Tn insertion and cloning into pCIEtmf, BamHI site underlined	(5)
10423-nhe-rev	5' - TAT <u>GCT AGC AAG GGA GTG GTC</u> AAT CG – 3', reverse primer for confirming OG1RF_10423 (<i>prsA</i>) Tn insertion and cloning into pCIEtm, NheI site underlined	(5)
fsrA-Bam-fwd	5' - ATA <u>GGA TCC TAA TTT TAT ATC TTC</u> TTG AGA AAG GG - 3', forward primer for cloning <i>fsrA</i> into pCIEtm, BamHI site underlined	This study
fsrA-Nhe-rev	5' - TAT <u>GCT AGC TCC CTA AGT AAG AAA</u> TAG CGC - 3', reverse primer for cloning <i>fsrA</i> into pCIEtm, NheI site underlined	This study
JD460s (16S forward)	5' – GCG GCT CTC TGG TCT GTA AC – 3', forward primer to confirm depletion of genomic DNA from RNA (116 bp when paired with JD461as)	This study
JD461as (16S reverse)	5' – CGG AAA CCC TCC AAC ACT TA – 3', reverse primer to confirm depletion of genomic	This study

	DNA from RNA (116 bp when paired with JD460s)	
JD464s (<i>relA</i> qPCR)	5' – CGA CTT GCT TCG TCA GTT CA – 3', forward primer for qRT-PCR of <i>relA</i> (106 bp when paired with JD465as)	(6)
JD465as (<i>relA</i> qPCR)	5' – ACC CAT GAG ATG CAC CAA A – 3', reverse primer for qRT-PCR of <i>relA</i> (106 bp when paired with JD464s)	(6)
gelE-qPCR-fwd	5' – CTT TTT GGG ATG GAA AAG CA – 3', forward primer for qRT-PCR of <i>gelE</i> (124 bp when paired with gelE-qPCR-rev)	This study
gelE-qPCR-rev	5' – CCG GCA GTA TGT TCC GTC AC – 3', reverse primer for qRT-PCR of <i>gelE</i> (124 bp when paired with gelE-qPCR-fwd)	This study
Plasmid	Description	Reference
pCIE-tet-MCS (pCIEtm)	pCIE-based plasmid vector with cCF10- inducible promoter, Tet ^R	(2)
pCIEtm:: <i>fsrA</i>	pCIEtm expressing <i>fsrA</i> from cCF10-inducible promoter, Tet ^R	This study
pCIEtm:: <i>prsA</i> (pCIEtm::OG1RF_10423)	pCIEtm expressing <i>prsA</i> from cCF10-inducible promoter, Tet ^R	This study
pTCV-LacSpec	Vector containing promoterless <i>lacZ</i> , Spec ^R	(7)
pTCV-LacSpec:: <i>P_{fsrA}</i> (pML200)	~1 kb upstream of the <i>fsrA</i> gene as well as a portion of the <i>fsrA</i> gene fused to <i>lacZ</i> , Spec ^R	This study
pTCV-LacSpec:: <i>P_{fsrB}</i> (pML201)	~500 bp that included a portion of the <i>fsrA</i> gene, the intergenic region, as well as the first 197 bp of the <i>fsrB</i> gene fused to <i>lacZ</i> , Spec ^R	This study
pTCV-LacSpec:: <i>P_{gelE}</i> (pDM7)	~500 bp upstream of the <i>gelE</i> gene cloned upstream of <i>lacZ</i> , Spec ^R	This study
pMSP3535	Shuttle vector with nisin-inducible promoter, Erm ^R	(8)

pMSP3535:: <i>gelE</i> (pMSP3614)	Nisin-inducible <i>gelE</i> in pMSP3535	(9)
-----------------------------------	---	-----

Rif^R = rifampicin resistance, Fus^R = fusidic acid resistance, Cm^R = chloramphenicol resistance, Tet^R = tetracycline resistance, Erm^R = erythromycin resistance, Spec^R = spectinomycin resistance. Restriction enzyme sites in oligonucleotide sequences are underlined, and the enzymes are listed in the oligonucleotide names.

1. Dunny G, Funk C, Adsit J. Direct stimulation of the transfer of antibiotic resistance by sex pheromones in *Streptococcus faecalis*. *Plasmid*. 1981;6(3):270-8.
2. Willett JL, Ji M, Dunny GM. Exploiting biofilm phenotypes for functional characterization of hypothetical genes in *Enterococcus faecalis*. *npj Biofilms and Microbiomes* volume2019.
3. Dale JL, Beckman KB, Willett JLE, Nilson JL, Palani NP, Baller JA, et al. Comprehensive Functional Analysis of the *Enterococcus faecalis* Core Genome Using an Ordered, Sequence-Defined Collection of Insertional Mutations in Strain OG1RF. *mSystems*. 2018;3(5).
4. Sifri CD, Mylonakis E, Singh KV, Qin X, Garsin DA, Murray BE, et al. Virulence effect of *Enterococcus faecalis* protease genes and the quorum-sensing locus *fsr* in *Caenorhabditis elegans* and mice. *Infect Immun*. 2002;70(10):5647-50.
5. Willett JLE, Dale JL, Kwiatkowski LM, Powers JL, Korir ML, Kohli R, et al. Comparative Biofilm Assays Using *Enterococcus faecalis* OG1RF Identify New Determinants of Biofilm Formation. *mBio*. 2021;12(3):e0101121.
6. Dale JL, Nilson JL, Barnes AMT, Dunny GM. Restructuring of *Enterococcus faecalis* biofilm architecture in response to antibiotic-induced stress. *NPJ Biofilms Microbiomes*. 2017;3:15.
7. Manias DA, Dunny GM. Expression of Adhesive Pili and the Collagen-Binding Adhesin Ace Is Activated by ArgR Family Transcription Factors in *Enterococcus faecalis*. *J Bacteriol*. 2018;200(18).
8. Bryan EM, Bae T, Kleerebezem M, Dunny GM. Improved vectors for nisin-controlled expression in gram-positive bacteria. *Plasmid*. 2000;44(2):183-90.
9. Waters CM, Antiporta MH, Murray BE, Dunny GM. Role of the *Enterococcus faecalis* GelE protease in determination of cellular chain length, supernatant pheromone levels, and degradation of fibrin and misfolded surface proteins. *J Bacteriol*. 2003;185(12):3613-23.